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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,953	12/06/2000	Kenichiro Sato	Q62193	7258
7590 03/31/2006 SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 PENNSYLVANIA AVENUE, N.W. WASHINGTON, DC 20037-3213			EXAMINER CHU, JOHN S Y	
			ART UNIT	PAPER NUMBER

1752

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,953

Applicant(s)

SATO ET AL.

Examiner

John S. Chu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/16/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office action is in response to the amendment filed December 20, 2005.

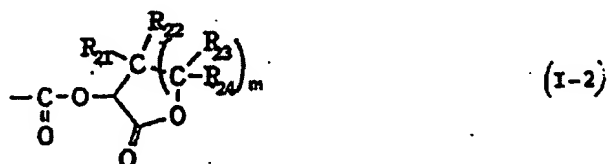
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over NOZAKI et al (6,013,416).

6. (currently amended): A positive photoresist composition comprising a resin which has an ester group represented by the following general formula (I-2) in its molecule and is decomposed by action of an acid to increase solubility of the resin in an alkali solution, and a compound generating an acid by irradiation of an active light ray or radiation:



wherein R₂₁ to R₂₄, which may be the same or different, each represents a hydrogen atom or an alkyl group; and m represents 1 or 2;

wherein said resin further contains (1) repeating structure units each having an alicyclic hydrocarbon moiety and further contains (2) repeating structure units each having a group which is decomposed by action of an acid to increase solubility of the resin in an alkali developing solution.

NOZAKI et al discloses in column 12, lines 24-31 that the polymer may contain two or more protected alkali-groups in combination, such that the claimed lactone monomer, an adamantyl acrylate monomer and a third alkali-soluble protected group can be used to form a terpolymer as taught in line 12 of column 12. Applicants amended claims are open and broad as to the third repeating unit (2) which is a group which is decomposed by the action of an acid. The third group is clearly taught and suggested in the art of NOZAKI et al.

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It would have been prima facie obvious to one of ordinary skill in the art of chemically amplified photoresist composition to add a third alkali-soluble protected groups as suggested by NOZAKI et al to the any of the exemplified photoresist composition with a copolymer to give a terpolymer and reasonably expect same or similar results as disclosed for a photoresist composition that possesses high sensitivity, and excellent dry etch resistance without swelling.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. GOODALL et al (5,677,405) is cited of interest as disclosing nobornene comonomers which can be polymerized with lactone acrylates, see claim 2 monomer (b).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

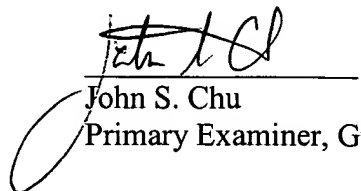
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526

The fax phone number for the USPTO is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John S. Chu
Primary Examiner, Group 1700

J.Chu
March 6, 2006